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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,935	02/03/2006	Akihiko Nishio	009289-05198	8746

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EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,935	NISHIO, AKIHIKO	
	Examiner	Art Unit	
	PING Y. HSIEH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-40* is/are pending in the application.

4a) Of the above claim(s) *35 and 36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-34 and 37-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/14/10 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laroia (U.S. PATENT NO. 6,819,930) in view of Parantainen et al. (U.S. PATENT NO. 7,092,373).

-Regarding claims 27 and 30, Laroia discloses a base station **(base station 101, fig. 1)** comprising an allocation unit configured to allocate an uplink resource **(uplink traffic segments as disclosed in col. 3 lines 4-25; and scheduler 502 as disclosed in fig. 5 and col. 6 lines 22-25)**, comprising at least one of a frequency resource and a spreading code resource **(traffic segment in OFDM as shown in fig. 2)**, to be used by a mobile station for transmitting **(col. 3 lines 22-24)**; a modulating unit **(Orthogonal Frequency Division Multiplexing (OFDM) is an efficient modulation scheme for signal transmission over frequency-selective channels)** configured to modulate first allocation information indicating the uplink the resource **(assignment segment for uplink traffic segments as disclosed in col. 3 lines 4-25 and col. 4 lines 8-10)** and second allocation information which is downlink resource allocation information **(assignment segment for downlink traffic segments as disclosed in col. 3 lines 4-25 and col. 4 lines 8-10)** and which indicates a destination of the user data **(identifier included in the assignment segment as disclosed in col. 3 lines 16-25)**; and a transmitting unit configured to simultaneously transmit the modulated first allocation information and the modulated second allocation information on a control channel **(assignment segments are always in the downlink and the assignment segments**

associated with downlink traffic segments and uplink traffic segments may be coded together as disclosed in col. 4 lines 4-10; assignment segments are transmitted in assignment channel 301 as shown in fig. 3), and configured to transmit the user data on a user channel **(traffic segments are in traffic channel 302 as shown in fig. 3)**. However, Laroia fails to specifically disclose the resource is to be used for transmitting an ACK/NACK signal in response to user data transmitted by the base station.

Parantainen et al. disclose the base station transmits information on the uplink channel to be used for acknowledgements as disclosed in fig. 4.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify allocated resource of Laroia to be used for transmitting an ACK/NACK signal. One is motivated as such in order to make sure the data is successfully transmitted.

-Regarding claims 28 and 31, the combination further discloses the resource comprises a subcarrier **(Laroia, traffic segment in OFDM as shown in fig. 2)**.

-Regarding claims 29 and 32, the combination further discloses an encoding unit configured to encode the first allocation information together with the second allocation information **(Laroia, assignment segments are always in the downlink and the assignment segments associated with downlink traffic segments and uplink traffic segments may be coded together as disclosed in col. 4 lines 4-10)**.

-Regarding claims 37 and 38, Laroia discloses a base station **(base station 101, fig. 1)** comprising: an allocation unit configured to allocate an uplink resource to be used by a mobile station for transmitting **(uplink traffic segments as disclosed in col. 3 lines 4-25; and scheduler 502 as disclosed in fig. 5 and col. 6 lines 22-25)**; an encoding unit **(the assignment segments associated with downlink traffic segments and uplink traffic segments may be coded together as disclosed in col. 4 lines 4-10)** configured to encode first allocation information indicating the uplink resource **(assignment segment for uplink traffic segments as disclosed in col. 3 lines 4-25 and col. 4 lines 8-10)** together with second allocation information which is a downlink resource allocation information **(assignment segment for downlink traffic segments as disclosed in col. 3 lines 4-25 and col. 4 lines 8-10)** and which indicates a destination of the user data to provide encoded first and second allocation information **(identifier included in the assignment segment as disclosed in col. 3 lines 16-25)**; a modulating unit configured to modulate the encoded first and second allocation information **(Orthogonal Frequency Division Multiplexing (OFDM) is an efficient modulation scheme for signal transmission over frequency-selective channels)**; and a transmitting unit configured to transmit the modulated and encoded first and second allocation information on a control channel **(assignment segments are always in the downlink and the assignment segments associated with downlink traffic segments and uplink traffic segments may be coded together as disclosed**

in col. 4 lines 4-10; assignment segments are transmitted in assignment channel 301 as shown in fig. 3) and configured to transmit the user data on a user channel **(traffic segments are in traffic channel 302 as shown in fig. 3)**.

However, Laroia fails to specifically disclose the resource is to be used for transmitting an ACK/NACK signal in response to user data transmitted by the base station.

Parantainen et al. disclose the base station transmits information on the uplink channel to be used for acknowledgements as disclosed in fig. 4.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify allocated resource of Laroia to be used for transmitting an ACK/NACK signal. One is motivated as such in order to make sure the data is successfully transmitted.

4. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laroia (U.S. PATENT NO. 6,819,930) in view of Parantainen et al. (U.S. PATENT NO. 7,092,373) and further in view of Khan (U.S. PG-PUB NO. 2004/0179493).

-Regarding claims 33 and 34, the combination teaches all the limitations as claimed in claims 27 and 30. However, the combination fails to specifically disclose a generating unit configured to generate transmit power information of the ACK/NACK signal, wherein said modulating unit modulates the transmit power information, and said transmitting unit simultaneously transmits the

modulated first allocation information, the modulated second allocation information and the modulated power information on the control channel.

Khan disclose a generating unit configured to generate transmit power information of the ACK/NACK signal, wherein said modulating unit modulates the transmit power information, and said transmitting unit simultaneously transmits the modulated first allocation information, the modulated second allocation information and the modulated power information on the control channel **(see paragraph 40)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the combination of Laroia and Parantainen et al. to include the features as disclosed by Khan. One is motivated as such in order to provide improve resource efficiency.

5. Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laroia (U.S. PATENT NO. 6,819,930) in view of Parantainen et al. (U.S. PATENT NO. 7,092,373) and further in view of Li et al. (U.S. PG-PUB NO. 2002/0119781).

-Regarding claims 39 and 40, the combination of Laroia and Parantainen teaches all the limitations as claimed in claims 27 and 30. However, the combination fails to specifically disclose a measuring unit configured to measure a channel quality between the base station and the mobile station, wherein said allocating unit allocates the uplink resource based on the channel quality.

Li discloses a measuring unit configured to measure a channel quality between the base station and the mobile station, wherein said allocating unit allocates the uplink resource based on the channel quality **(paragraph 27-28)**.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of invention to modify the combination of Laroia and Parantainen et al to include the features as disclosed by Li et al. One is motivated as such in order to improve resource allocation.

Response to Arguments

Applicant's arguments with respect to claims 27-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday~Thursday 8am ~ 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana N. Le can be reached on 571-272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PING Y HSIEH/
Examiner, Art Unit 2618